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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/594,872	04/19/2007	Yoshiyuki Takahashi	TIC-0111	4900

23377 7590 10/31/2007

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EXAMINER	
TRAN, BINH Q	
ART UNIT	**PAPER NUMBER**
3748	

MAIL DATE	DELIVERY MODE
10/31/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/594,872	TAKAHASHI ET AL.	
	Examiner	Art Unit	
	BINH Q. TRAN	3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,7-9,11 and 12* is/are rejected.

7)☒ Claim(s) *5,6 and 10* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *05/11/07; 08/08/07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Receipt and entry of Applicant's Preliminary Amendment dated September 28, 2006 is acknowledged.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-2, and 7-9 are rejected under 35 U.S.C. 102 (b) as being anticipated by Asada et al. (Asada) (Patent Number 5,562,086).

Regarding claims 1-2, and 9, Asada discloses a exhaust gas purifying apparatus in an internal combustion engine (1) provided with an intake path, and a plurality of parallel exhaust paths (13a, 13b) including at least first and second exhaust paths, the apparatus comprising : catalysts (12a, 12b) respectively arranged in the plurality of exhaust paths for purifying unclean substances contained in exhaust gas; a first exhaust gas recirculating path (15a) for supplying the exhaust gas from the first exhaust path to the intake path; a second exhaust gas recirculating path (15b) for supplying the exhaust gas from the second exhaust path to the intake path; a flow rate adjusting section (e.g. 10a, 10b, 16a, 16b) adjusting a flow rate of the exhaust gas discharged from the first exhaust path to a downstream side, and a flow rate of the exhaust gas supplied to the intake path from the first exhaust path via the first exhaust gas recirculating path (e.g. See col. 3, lines 25-50); and a control section (30) controlling the flow rate adjusting section on the basis of information relating to the temperature of at least one of the catalysts, the control section controlling the flow rate adjusting section in such a manner that a ratio of the flow rate of the exhaust gas discharged from the first exhaust path with respect to the flow rate of the exhaust gas discharged from the other exhaust paths than the first exhaust path becomes smaller in a case that the temperature exists in a preset low temperature region than in other cases (e.g. See col. 4, lines 30-67; col. 5, lines 1-67).

Regarding claims 7, Asada further discloses wherein the control section controls the flow rate adjusting section in such a manner that the exhaust gas is not discharged from the first exhaust path in the case that the temperature exists in the low temperature region (e.g. See col. 4, lines 30-67; col. 5, lines 1-67).

Regarding claims 8, Asada further discloses wherein the information relating to the temperature of the catalyst includes an exhaust gas temperature detected by a temperature detector (e.g. See col. 4, lines 30-67; col. 5, lines 1-67).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 3-4 and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asada in view of Itoyama (Patent Number 6,917,873).

Regarding claims 3 and 11, Asada discloses all the claimed limitation as discussed above except a variable nozzle type turbocharger supplying an air by utilizing a exhaust gas flow, the turbocharger including a turbine portion provided at lease one of the first and second exhaust paths, wherein the flow rate adjusting section is provided with the turbine portion and a flow rate adjusting valve adjusting a flow rate in at least one of the exhaust gas recirculating paths, wherein the exhaust gas recirculating path is connected to a portion of the exhaust path in an upstream side of the turbine portion, and wherein the control section controls an opening degree of a vane provided in the turbine portion, and an opening degree of the flow rate adjusting valve.

Itoyama teaches that it is conventional in the art, to use a variable nozzle type turbocharger (e.g. 30) supplying an air by utilizing a exhaust gas flow, the turbocharger including a turbine portion provided at lease one of the first and second exhaust paths, wherein the flow rate

adjusting section is provided with the turbine portion and a flow rate adjusting valve adjusting a flow rate in at least one of the exhaust gas recirculating paths, wherein the exhaust gas recirculating path is connected to a portion of the exhaust path in an upstream side of the turbine portion, and wherein the control section controls an opening degree of a vane provided in the turbine portion, and an opening degree of the flow rate adjusting valve (See Fig. 1, 9; col. 5, lines 21; col. 6, lines 1-42).

It would have been obvious to one having ordinary skill in the art at the time the invention was made, to use a variable nozzle type turbocharger supplying an air by utilizing a exhaust gas flow, the turbocharger including a turbine portion provided at lease one of the first and second exhaust paths, wherein the flow rate adjusting section is provided with the turbine portion and a flow rate adjusting valve adjusting a flow rate in at least one of the exhaust gas recirculating paths, wherein the exhaust gas recirculating path is connected to a portion of the exhaust path in an upstream side of the turbine portion, and wherein the control section controls an opening degree of a vane provided in the turbine portion, and an opening degree of the flow rate adjusting valve of Asada, as taught by Itoyama for the purpose of controlling the exhaust gas flowing into the catalytic converter, so as to reduce the poisoned materials in the purifying catalyst and to reduce amount of nitrogen oxides in the exhaust gas of the lean-burn engine, and further improve the performance of the engine and the efficiency of the emission device.

Regarding claims 4 and 12, Asada discloses all the claimed limitation as discussed above except an exhaust throttle valve provided in a portion of the first exhaust path in a downstream side of a joint portion between the first exhaust gas recirculating path and the first exhaust path, wherein the flow rate adjusting section is provided with the exhaust throttle valve, and a flow

rate adjusting valve adjusting a flow rate in at least one exhaust gas recirculating path, and wherein the control section controls an opening degree of the exhaust throttle valve, and an opening degree of the flow rate adjusting valve.

Itoyama teaches that it is conventional in the art, to use an exhaust throttle valve (210) provided in a portion of the first exhaust path in a downstream side of a joint portion between the first exhaust gas recirculating path and the first exhaust path, wherein the flow rate adjusting section is provided with the exhaust throttle valve, and a flow rate adjusting valve adjusting a flow rate in at least one exhaust gas recirculating path, and wherein the control section controls an opening degree of the exhaust throttle valve, and an opening degree of the flow rate adjusting valve (See Fig. 9; col. 10, lines 60-67; col. 11, lines 1-30).

It would have been obvious to one having ordinary skill in the art at the time the invention was made, to use an exhaust throttle valve provided in a portion of the first exhaust path in a downstream side of a joint portion between the first exhaust gas recirculating path and the first exhaust path, wherein the flow rate adjusting section is provided with the exhaust throttle valve, and a flow rate adjusting valve adjusting a flow rate in at least one exhaust gas recirculating path, and wherein the control section controls an opening degree of the exhaust throttle valve, and an opening degree of the flow rate adjusting valve of Asada, as taught by Itoyama for the purpose of controlling the exhaust gas flowing into the catalytic converter, so as to reduce the poisoned materials in the purifying catalyst and to reduce amount of nitrogen oxides in the exhaust gas of the lean-burn engine, and further improve the performance of the engine and the efficiency of the emission device.

Allowable Subject Matter

Claims 5-6, and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Since allowable subject matter has been indicated, applicant is encouraged to submit ***Final Formal Drawings (If Needed)*** in response to this Office action. The early submission of formal drawings will permit the Office to review the drawings for acceptability and to resolve any informalities remaining therein before the application is passed to issue. This will avoid possible delays in the issue process.

Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and consists of three patents:

Fukuma et al. (Pat. No. 7107761), Sato (Pat. No. 7080635), and Woll et al. (Pat. No. 7073465) all discloses an exhaust gas purification for use with an internal combustion engine.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Binh Tran whose telephone number is (571) 272-4865. The examiner can normally be reached on Monday-Friday from 8:00 a.m. to 4:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion, can be reach on (571) 272-4859. The fax phone numbers for the organization where this application or proceeding is assigned are (571) 273-8300 for regular communications and for After Final communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BT
October 28, 2007

Binh Q. Tran
Patent Examiner
Art Unit 3748